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10/767,291	01/28/2004	Michael J. Sinclair	MS1-1814US	4991
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LEE & HAYES PLLC 421 W RIVERSIDE AVENUE SUITE 500 SPOKANE, WA 99201			EXAMINER HOLTON, STEVEN E	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/767,291

Applicant(s)

SINCLAIR, MICHAEL J.

Examiner

Steven E. Holton

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 is/are allowed.
- 6) ☒ Claim(s) 12-14, 16-18 and 23-26 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 11/2/2007. Claims 1-18 and 23-26 are currently pending in the application. An action follows below:

Response to Arguments

2. Applicant's arguments, see pages 10-12, filed 11/2/2007, with respect to claims 1-3, 5-6, and 8-10 have been fully considered and are persuasive in light of the amendments to the claims. The rejection under 35 USC 102(b) and 103(a) of claims 1-3, 5-6, and 8-10 has been withdrawn. The Examiner agrees that the fiber optic plate described by Hanson is a rigid structure that would not allow a flexible membrane to allow a pressed button to move to contact a touch screen display as part of a user input system.

Applicant's arguments filed 11/2/2007 regarding claims 12-14, 16, 17, and 19-21 have been fully considered but they are not persuasive.

The Examiner agrees that the Nasu reference does not explicitly define a pre-determined linear slot. However, Nasu does disclose a pre-determined slot that restricts the movement of the slidable element. Fig. 2, element 12A is a gap in substrate (element 12) that restricts the movement of the slider (element 19). It would be impossible for the sliding input element 19 to move be moved to a location outside of gap 12A. The slot described by Nasu is not defined explicitly as a linear shaped slot, but at the time of invention it would be a matter of design choice to form the slot in a

desired shape based on the desired movement of the sliding element. A circular or rectangular slot would allow multiple dimensions of movement; a linear slot would restrict input to a single dimension; and a zigzag or other type of specialized slot could be used to simulate a gear shift or other unique style of sliding input. The shape of the restricting slot would be a matter of design choice to select a circular, linear, rectangular, or other type of slot shape.

Applicant's arguments with respect to claims 23-26 have been considered but are moot in view of the new ground(s) of rejection.

The claims are newly presented, but have rewritten the claims to provide further limitation as described within the specification. The Examiner now provides Sevier et al. (USPN: 5729394) as a reference regarding the use of an external mirror for redirecting the direction of an infrared beam from a computer data port as part of the new grounds of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selig et al. (USPN: 6492978), hereinafter Selig in view of Nasu (USPN: 7116313).

Regarding claim 12, Selig discloses an input apparatus including “a membrane (Fig. 3, element 24); and tactile means (Fig. 2, elements 24a), coupled to the membrane, for selectively contacting a touch screen display (Fig. 3, elements 16 and 18) at a desired location in response to a force exerted on the tactile means by a user (Fig. 4, element 24d; col. 5, lines 24-36).”

However, Selig fails to disclose “wherein the tactile means further includes a means for slidably contacting the touch screen display along a pre-determined linear slot.”

Nasu discloses a sliding input push button (Figs. 1 and 2, element 19) connected to a membrane (Figs. 1 and 2, element 12) and on top of a touch panel input device (Fig. 2, element 15). An opening within the membrane of Nasu (Fig. 2, element 12A) restricts the movement of the sliding input button (Fig. 2, element 19) to the boundaries of the opening. The slot described by Nasu is not defined explicitly as a linear shaped slot, but at the time of invention it would be a matter of design choice to make the slot in any desired shape based on the desired movement of the sliding element. A circular or rectangular slot would allow multiple dimensions of movement; a linear slot would restrict input to a single dimension; and a zigzag or other type of specialized slot could be used to simulate a gear shift or other unique style of sliding input. The shape of the restricting slot would be a matter of design choice to select a circular, linear, rectangular, or other type of slot shape.

At the time of invention it would have been obvious to one skilled in the art to combine the teachings of Selig and Nasu to produce a key overlay for a touch screen

and including a sliding input button. The sliding input button of Nasu could be combined with the key overlay of Selig to provide a further method of input such as for moving a pointer or other type of input on a touch panel (Nasu, col. 1, line 58 – col. 2, line 3). Therefore, it would have been obvious to combine the teachings of Selig and Nasu to provide a key overlay for a touch panel that includes buttons and a sliding button in a linear slot as disclosed in claim 12.

Regarding claim 13, Selig discloses the membrane being made of flexible and resilient material (col. 4, lines 43-50).

Regarding claim 14, Selig discloses the button structure comprising transparent and translucent portions (col. 6, lines 41-58).

Regarding claim 16, Selig discloses the device providing tactile feedback (col. 4, lines 15-24). Selig does not disclose an audible feedback during a button press. The Examiner takes Official Notice that it is well-known in the art of input buttons and keys to form keys and buttons that provide an audible click or sound when depressed by a user to provide feedback. The audible feedback is useful for providing further indication when an input has been registered by an input device. Further, it is also well-known to provide software generated audible feedback based on user input actions for portable and handheld devices. One example is the Apple iPod® which produces a clicking sound based on user input as audible feedback to indicate a detected input to the input elements of the device.

4. Claims 12-14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraus et al. (USPN: 6776546), hereinafter Kraus in view of Nasu.

Regarding claim 12, Kraus discloses an input apparatus including "a membrane (Fig. 3a, element 110); and tactile means, coupled to the membrane (Fig. 3a, elements 300), for selectively contacting a touch screen display at a desired location in response to a force exerted on the tactile means by a user (Fig. 3c; col. 7, lines 15-42)."

However, Kraus does not expressly disclose "the tactile means further includes a means for slidably contacting the touch screen display along a pre-determined linear slot."

Nasu discloses a sliding input push button (Figs. 1 and 2, element 19) connected to a membrane (Figs. 1 and 2, element 12) and on top of a touch panel input device (Fig. 2, element 15). An opening within the membrane of Nasu (Fig. 2, element 12A) restricts the movement of the sliding input button (Fig. 2, element 19) to the boundaries of the opening. The slot described by Nasu is not defined explicitly as a linear shaped slot, but at the time of invention it would be a matter of design choice to make the slot in any desired shape based on the desired movement of the sliding element. A circular or rectangular slot would allow multiple dimensions of movement; a linear slot would restrict input to a single dimension; and a zigzag or other type of specialized slot could be used to simulate a gear shift or other unique style of sliding input. The shape of the restricting slot would be a matter of design choice to select a circular, linear, rectangular, or other type of slot shape.

At the time of invention it would have been obvious to one skilled in the art to combine the teachings of Kraus and Nasu to produce a key overlay for a touch screen and including a sliding input button. The sliding input button of Nasu could be combined with the key overlay of Kraus to provide a further method of input such as for moving a pointer or other type of input on a touch panel (Nasu, col. 1, line 58 – col. 2, line 3). Therefore, it would have been obvious to combine the teachings of Kraus and Nasu to provide a key overlay for a touch panel that includes buttons and a sliding button in a linear slot as disclosed in claim 12.

Regarding claim 13, Kraus discloses making the membrane out of a flexible and resilient material (col. 7, lines 29-42).

Regarding claim 14, Kraus discloses making the overlay as being both opaque and transparent (translucent) (col. 2, lines 48-55).

Regarding claim 16, Kraus discloses providing haptic or tactile feedback to the user (col. 2, lines 32- 47).

Regarding claim 17, Kraus discloses providing a QWERTY keyboard layout (Fig. 3a, elements 300).

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Selig in view of Nasu and in further view of Hanson et al. (USPN: 7079119), hereinafter Hanson.

Regarding claim 18, as discussed above, the combination of Selig and Nasu disclose all of the limitations except, "a lighting device to selectively illuminate a portion of the apparatus".

Hanson discloses providing lighting devices (Fig. 4, elements 54) to provide light to the membrane structure (col. 6, line 46 – col. 7, line 4).

At the time of invention it would have been obvious to one skilled in the art to modify the teachings of Selig and Nasu with Hanson to produce a key overlay for a touch screen that included a lighting source for lighting the overlay. The motivation for doing so would be to provide illumination of the display beneath the key cover for easier viewing and use (Hanson, col. 7, lines 5-32). Thus, it would have been obvious for one skilled in the art to combine the teachings of Selig, Nasu, and Hanson to produce a key overlay for a touch screen that including a light source for lighting portions of the overlay apparatus as described in claim 18.

6. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraus in view of Sevier et al. (USPN: 5729394), hereinafter Sevier.

Regarding claim 23, Kraus discloses an input apparatus including “a flexible membrane (Fig. 3a, element 110); a button structure on one surface of the membrane (Fig. 3a, elements 300); and a nib corresponding to the button structure and disposed on another side of the membrane (Fig. 3b, element 306), wherein the apparatus is configured to be operatively coupled to a touch screen display so that when a user applies a force to the button structure the nip contacts the touch screen display so as to activate a virtual button being displayed by the touch screen display (Fig. 3c; col. 7, lines 15-42)”.

However, Kraus does not disclose, "a redirector coupled to the flexible membrane, the redirector configured to change a direction of an infrared beam directed onto the redirector."

Sevier discloses a mirror and lens assembly to redirect incoming and outgoing data signals being transmitted along an infrared beam (abstract; claim 1).

At the time of invention it would have been obvious to one skilled in the art to combine the teachings of Kraus and Sevier. A mirror used to redirect an infrared beam directed at the mirror could be attached to the membrane of Kraus at any desired location to redirect the infrared beam. This could be chosen to redirect any infrared beam directed towards an area near the membrane or specifically for the purposes of redirecting the beam transmitting to and from a data port to provide an infrared data port with multi-direction capability (Sevier, col. 1, lines 1-4). Thus, it would have been obvious to one skilled in the art to combine the teachings of Kraus and Sevier to produce a device as described in claim 23.

Regarding claims 24 and 25, Kraus discloses a keyboard layout implementing a QWERTY style keyboard, but not a remote control or other type of button layout. At the time of invention it would have been a matter of design choice for one skilled in the art to provide buttons in a remote control, television remote control, universal remote control, or any other type of button layout. The placement of buttons on an input device is a matter of design choice based on the desired buttons and intended use of the input device. Thus, it would have been obvious to one skilled in the art that any arrangement

of buttons, including a remote control or other layout could be achieved by the overlay device described by Kraus.

Regarding claim 26, the Examiner takes Official Notice that mirrors, optical prisms, fiber optic segments, and fiber optic plates with specific geometries are well known in the art of optics for the use of redirecting infrared and other types of light beams. At the time of invention it would have been obvious to one skilled in the art the mirror arrangement of Sevier could be replaced with a fiber optic elements or a fiber optic plate designed to redirect the infrared light directed towards the redirector. The specific optical element chosen would be a matter of design choice based on cost, weight, and other factors to select a desirable optical system for redirecting the infrared light beam.

Allowable Subject Matter

7. Claims 1-11 are allowed.
8. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The present invention is directed to a touch screen overlay element with buttons for providing an input device. Independent claim 1 and claim 15 identifies the uniquely distinct features "the membrane comprises a fiber optic plate". The closest prior art,

Selig, Kraus, and Hanson disclose touch screen overlays and a fiber optic plate for placement over a display device, but provide rigid fiber optic plates, and arrange the fiber optic plate between the touch input elements and the display, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571) 272-7903. The examiner can normally be reached on M-F 8:30-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven E. Holton
Division 2629
January 30, 2008



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